DETERMINATION OF MULTI ELEMENTS IN NUTS USING ICP-OES

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ABSTRACT

DETERMINATION OF MULTIELEMENTS IN NUTS USING ICP-OES

Nuts play an important role in the diet. They serve to supplement nutrients provided by cereals, legumes and vegetables. The sample preparation method use was wet digestion with HNO_3/H_2O_2. Then, the samples were analyzed by using ICP-OES. The instrumental conditions were also optimized considering radio-frequency (rf) incident power, nebulizer argon gas flow rate and sample uptake flow rate. The confidence interval of the concentration is in the 95% range. The data that has percent recovery standard deviation between 1-5 % were acceptable. The amounts of minerals were calculated. In the whole, mineral composition of the analyzed samples showed high levels of Ca and Mg, and at the opposite very low level of Cr and Pb. Fe level in all nut samples were lower than the LOD of ICP-OES.